What is claimed is:

1. (Currently Amended) Method for producing dimensionally accurate metal foam made of foamable, powder-metallurgically produced metal half finished product with a melting point >200° C by the steps of:

- introducing [[the]] a material that is foamable at [[T>]] a temperature above 200° C into a casting mould which is heat resistant up to the melting point of the foamable material and having [[a]] an expansion coefficient ~~less than 3 K^{-1}, preferably <1K^{-1}~~ on the order of graphite and yttrium oxide

- controlled heating of the foamable material in the casting mould under conditions producing foaming and dimensionally accurate forming of the faces of the material with the help of [[an]] radiation [[emitter]] emitters whose energy emission is controlled, [[that]] and which are applied on or through the mould; and

- ~~removal of~~ removing the thus ~~foamed~~ formed foam product from the mould.

2. (Currently Amended) Method as per claim 1, ~~characterized therein, that~~ wherein the mould is at least partly diathermic ~~diatherman~~.

3. (Currently Amended) Method according to claim 1, ~~one of the previous claims, characterized therein, that~~ comprising the further step of cooling off the mould ~~is cooled off~~ in a controlled manner after heating.

4. (Currently Amended) Method according to claim 1, ~~one of the previous claims, characterized therein, that~~ comprising the further step of using a separating agent between the semi-finished metal product and the mould surface. ~~the foaming is conducted under controlled gas atmosphere having a pressure of up to 5 bar.~~

5. (Currently Amended) Method according to claim 1, ~~one of the previous claims, characterized therein, that~~ wherein the foaming takes place under a controlled gas atmosphere at a pressure up to a 5 bar. ~~separating agent is used between the semi-finished metal product and the mould surface.~~

6. (Currently Amended) Method according to claim 1, ~~one of the previous claims, characterized therein, that~~ wherein the casting mould is open at least at one side thereof.

7. (Currently Amended) Method according to claim 1, wherein ~~as per claims 1 - 6, characterized therein, that~~ the casting mould is open on both sides, whereby the foamable material is introduced on one side into the mould, ~~and~~ is heated within a selected zone of the mould ~~a selected zone is heated in a:~~ in said controlled manner and foamed in such a way, that it comes out on ~~the other~~ an opposite side of the mould ~~strand-like~~ as a continuous product in a foamed condition having the cross-sectional shape of the casting mould.

8. (Currently Amended) Method according to claim 1, ~~one of the previous claims, characterized therein, that~~ wherein the radiation emission of the radiation emitter is monitored by sensors and controlled according to [[the]] a monitoring signal.

9. (Currently Amended) Method according to claim 1, ~~one of the previous claims, characterized therein, that~~ wherein the casting mould is thin-walled, whereby at least one wall thereof has ~~should preferably have~~ a thickness of 2 - 20 mm.[[,]] ~~better still a thickness of 1-10 mm and, especially preferred, 2 - 4mm.~~

10. (Currently Amended) Method according to claim 1, ~~one of the previous claims, characterized therein, that~~ comprising the further step of supporting at least one wall of the casting mould ~~is externally supported~~ with supports.

11. (Currently Amended) Method according to claim 10, ~~one of the previous claims, characterized therein, that~~ wherein the supports are controllable and support the casting mould against a base plate having lower temperature.

12. (Currently Amended) Device for producing dimensionally accurate thermally foamed metal foam parts, comprising: ~~characterized by,~~

- a thin-walled casting mould, which is stable at the melting temperature of the metal foam and has a expansion coefficient of the magnitude of graphite and yttrium oxide;

- a controllable radiation unit; and

- a control system which controls the radiation unit ~~mechanism~~ on the basis of measurements of a radiation measuring unit.

13. (Currently Amended) Device as per claim 12, ~~characterized therein, that~~ wherein the thin-walled casting mould ~~which is stable at the melting temperature of the metal foam has [[a]] an expansion coefficient of the magnitude of graphite and yttrium oxide and~~ is also diathermic.

14. (Cancelled)

15. (Cancelled)

16. (New) Method according to claim 1, wherein the casting mould is thin-walled, whereby at least one wall thereof has a thickness of 1-10 mm.

17. (New) Method according to claim 1, wherein the casting mould is thin-walled, whereby at least one wall thereof has a thickness of 2-4 mm.

18. (New) Method as per claim 2, wherein the mould is at least partly diathermic.

19. (New) Method according to claim 1, comprising the further step using a separating agent between the semi-finished metal product and the mould surface; wherein the casting mould is open on both sides, whereby the foamable material is introduced on one side into the mould along with the separating agent, is heated within a selected zone of the mould in said controlled manner and foamed in such a way, that it comes out on an opposite side of the mould as a continuous product in a foamed condition having the cross-sectional shape of the casting mould.